

10

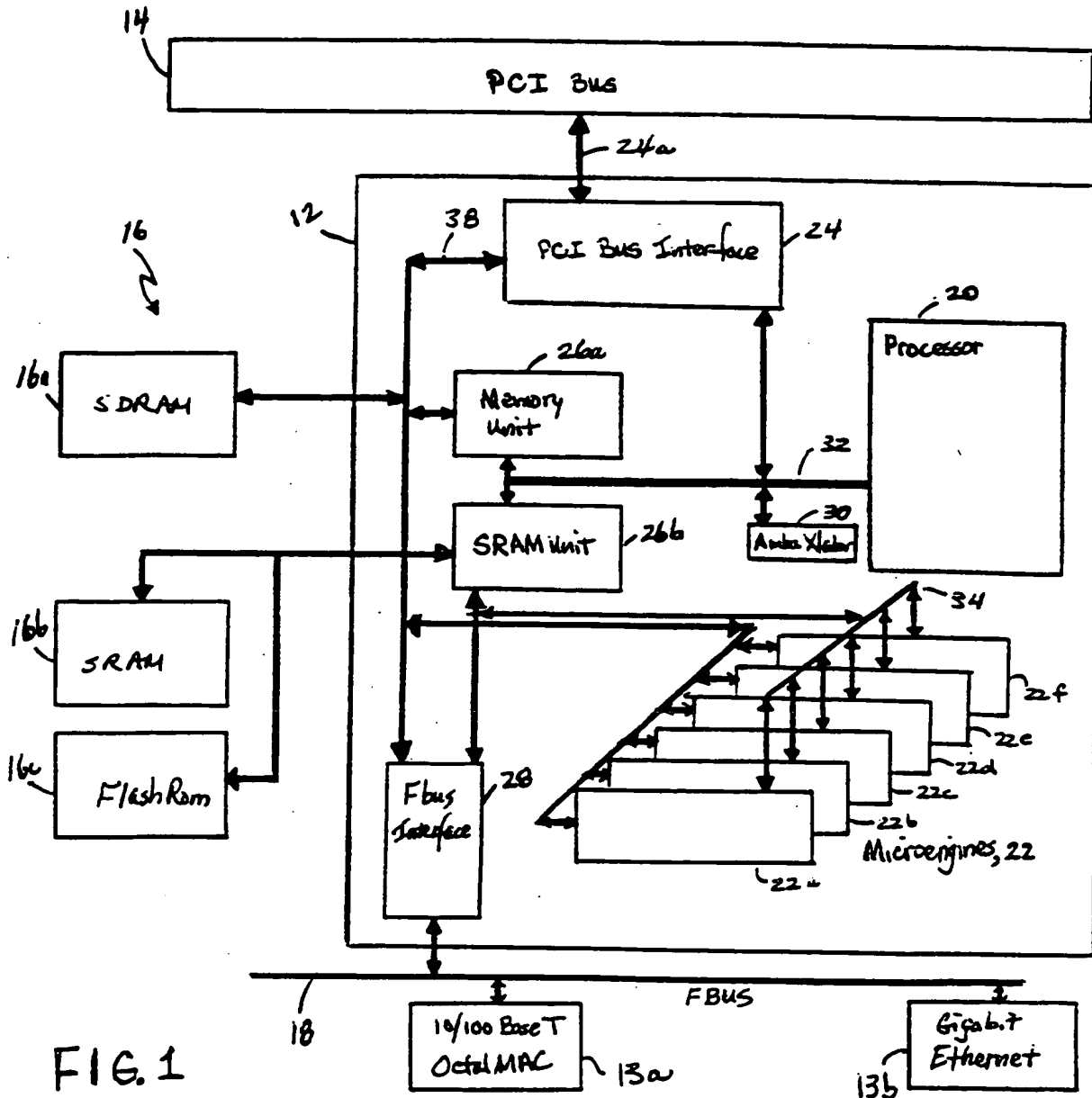
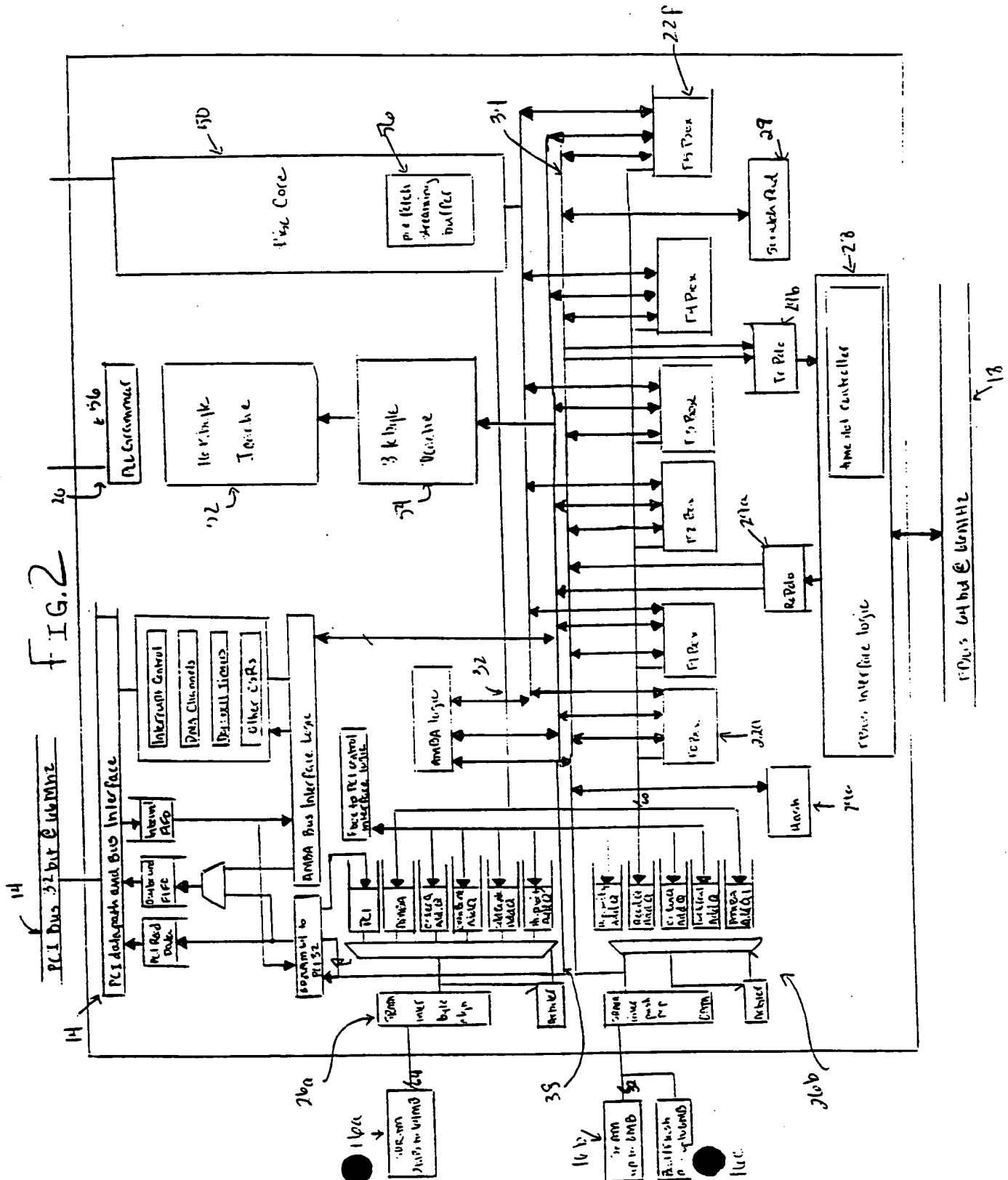


FIG. 1

FIG. 2



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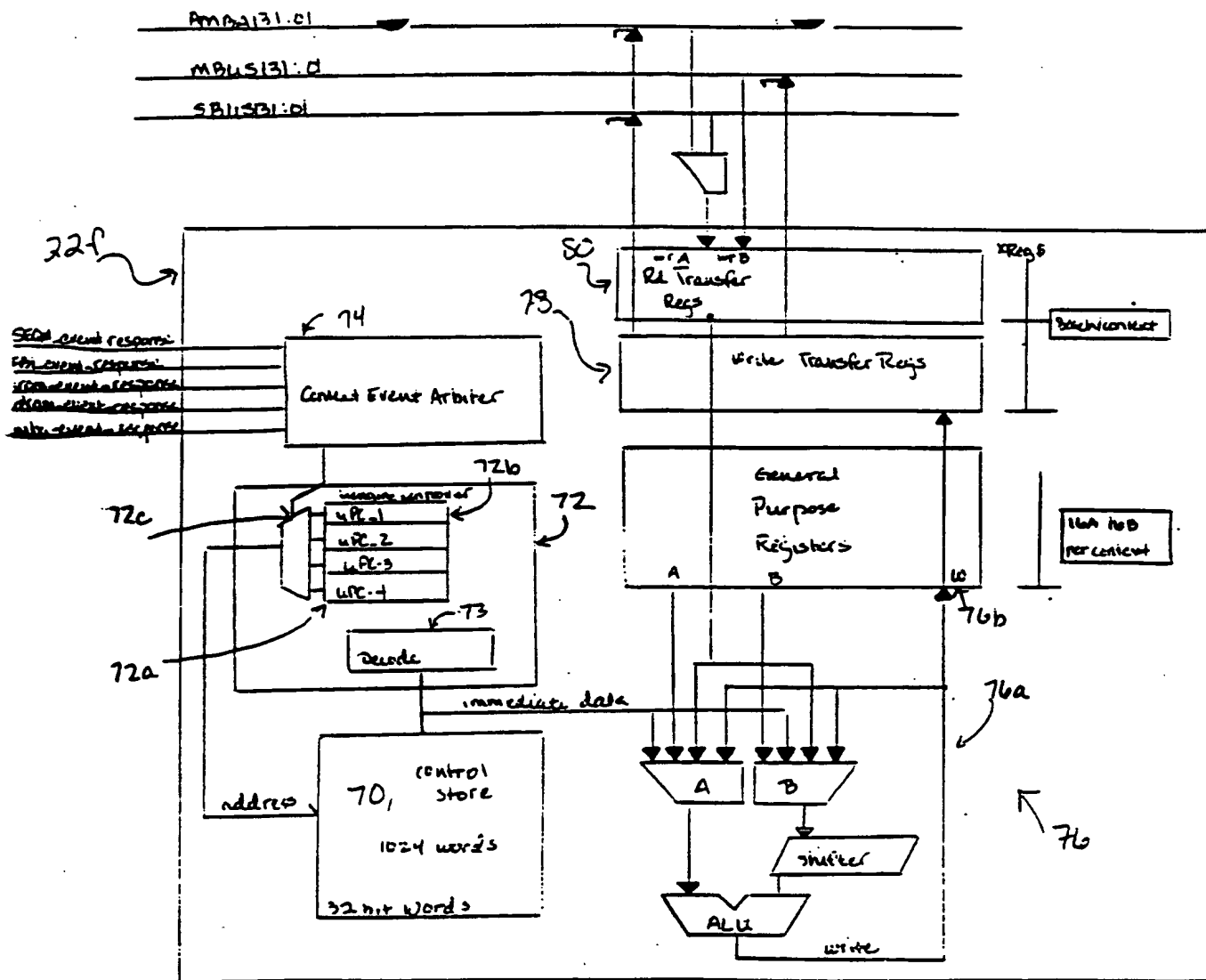
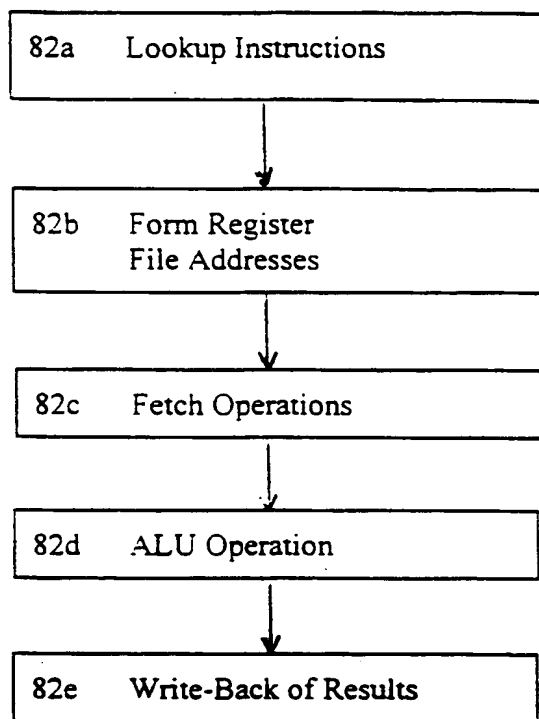


Fig 3

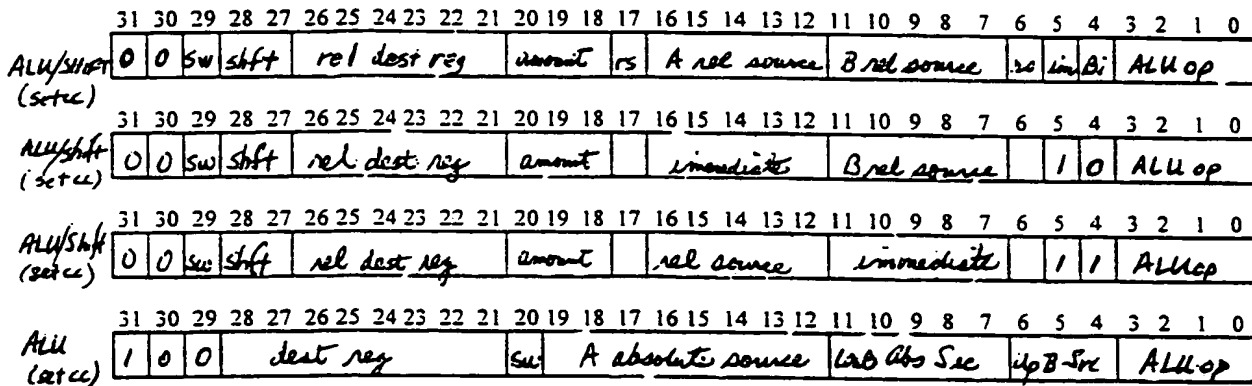


**FIG. 4**

WO 01/16758

Applicant(s): Gilbert Wolrich et al.  
 DOUBLE SHIFT INSTRUCTION FOR MICRO ENGINE USED  
 IN MULTITHREADED PARALLEL PROCESSOR  
 ARCHITECTURE

PCT/US00/23982



## Shift Decode:

(rs, r0) decode ([31:0] shifts into [63:32] and take [63:32]):

00 = left rotate

01 = right shift (32-ShfAmt = Right Shift Amt)

10 = left shift

11 = double shift (upper A-op shifts into lower B-op)

==&gt; "left rotate" of zero gives zero shift (therwise zero amount signifies indirect shift)

## ALU-OP decode:

0000 = B

0001 = -B

0010 = A&amp;B (and)

0011 = A&amp;-B (and-)

0100 = ~A&amp;B (~and)

0101 = XOR

0110 = OR

0111 = mul-stuff

1000 = A-B

1001 = B-A

1010 =

1011 =

1100 = A+B(8)

1101 = A+B(16)

1110 = A+B

1111 = A+B+Cin

FIG. 5